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PROCEEDINGS
OF THE
ACADEMY OF NATURAL SCIENCES
OF PHILADELPHIA.

Vol. I.	OCTOBER, 1841.	No. 7.
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STATED MEETING, OCTOBER 5, 1841.

VICE PRESIDENT WETHERILL in the Chair.

DONATIONS TO LIBRARY.

- Horæ Entomologicæ*: or Essays on the Annulose Animals.
By W. S. Macleay, Esq. F. L. S. Vol. 1, parts 1 and 2.
8vo. London, 1821. From Dr. C. Pickering.
- Monographia Ruborum Sueciæ*. Edidit Joh. P. Arrhenius.
8vo. Upsalia, 1840. From the Author.
- Histoire Physique, Politique et Naturelle de l'Isle de Cuba*.
Nos. 21, 22, 23, 24 and 25. Par Don Ramon de la Sagra.
Folio. Paris, 1841. From certain members.
- Antiquedades Peruanas*. Parte Primera. Par Mariano Eduardo de Rivero. 4to. Lima, 1841. From the Author.
- Annales des Mines*. 8vo. Levraisons 4, 5, and 6, of Vol. XVIII. Paris, 1840. From the Editor.
- Memoire sur les Foraménifères de la Craie du Bassin de*

Paris. Par M. Alcide D'Orbigny. 4to. Paris, 1841. From the Author.

Amphibia Europæa ad Systema Nostrum Vertebratorum Ordinata. Auctore Carolo L. Bonaparte. 4to. 1841. From the Author.

Lamarck's Genera of Shells, with a Catalogue of Species. Translated from the French by A. A. Gould, M. D. 12mo. Boston, 1833. From Mr. S. S. Haldeman.

New Species of Shells, published October 5, 1841. By S. S. Haldeman. 8vo. From the Author.

Remarks on the Abracadabra, or Dr. Hahnemann's Homœopathic Medicines. By William Leo Wolf, M. D. 8vo. New York, 1841. From some Physicians of Philadelphia.

WRITTEN COMMUNICATIONS.—Dr. Morton read a letter addressed to him by the Rev. John Bachman, of Charleston, South Carolina, accompanying a communication on the Fauna of North America, which was submitted to the Society for publication, viz :

“Descriptions of New Species of Quadrupeds inhabiting North America. By J. J. Audubon and J. Bachman.

VESPERTILIO monticola. Mountain Bat.

V. Vespertilionæ subulata brevior; auriculis brevioribus; tragus non excedentibus dimidiam longitudinem auriculæ; colore fulvo.

Mountain Bat.—Smaller than Say's Bat, (*V. Subulatus*); ears shorter; tragus, less than half the length of the ear; colour, yellowish brown.

Upper fore-teeth bilobate, ears moderate, naked, erect, rather broad at base; tragus linear, subulate, body small; wings long; tail projecting, a line beyond the interfemoral membrane, which is slightly sprinkled with hair above and beneath.

Colour. The nose and chin are black; ears, light brown; wing membranes, dark brown. The whole of the fur of the body, above and beneath, is from the roots of an uniform yellowish-brown colour.

This species differs from Say's Bat, not only in colour, but in its much shorter ears and tragus. The size and shape of the tragus, we have found an infallible guide in our American Bats; the ears of the present species, when alive, are always erect, whilst those of Say's Bat are folded backwards like those of the long eared Bats—*Plecotus*.

Dentition: Incis. $\frac{2-2}{6}$ Canines, $\frac{1-1}{1-1}$.

Length of head and body,	1 inch 8 lines.
“ tail,	1 “ 6 “
“ spread,	8 inches 0 “
Height of ear, posteriorly,	3 “
“ tragus	2 “

N. B. The tragus in Say's Bat is $4\frac{1}{2}$ lines in height. Several specimens of this Bat were obtained during summer, on the mountains of Virginia, at the Grey Sulphur Springs. They were very uniform in size and colour.

VESPERTILIO *Virginianus*. Virginian Bat.

V. (*Virginianus*) *vespertilione monticulâ paululum longior, auriculis paululum longioribus magisque acutis; dentibus primoribus maxillæ superioris simplicibus; interfemorali membranâ nudâ; corpore supra fuligineo-fusco; subtus cinereo-fusato.*

Virginian Bat.—A little larger than the Mountain Bat; ears a little longer and more pointed; upper fore teeth simple; interfemoral membrane naked; sooty, brown above, ash brown beneath.

Dental formula, incisors, $\frac{2-2}{6}$, Canines, $\frac{1-1}{1-1}$.

In size, this species is intermediate between *Vespertilio Carolinensis*, and *V. subulatus*. The ear is naked, less rounded, and more pointed than either of the other closely-allied species. The tragus is very narrow, linear, and less than half the length of the ear. The tail is enclosed in the interfemoral membrane, except the penultimate joint, which is free. The anterior upper fore teeth, instead of being sub-simple, as in the (*V. Carolinensis*) or bilobate, as in *Ves. subulatus* and *Ves. montanus*, are simple.

Colour.—The nose, upper-lip and under-jaw are black; wings, dark brown. The back is sooty brown; on each shoulder, at the insertion of the wing, there is a circular black spot about four lines in diameter; on the under surface, cinerious brown.

Dimensions—

Length of head and body,	2 inch. 5 lines.
Do. tail,	1 “ 0 “
Spread,	8 “ 8 “
Height of ear, posteriorly,	4 “
Do. tragus,	1 $\frac{1}{2}$ “

Habitat. Mountains of Virginia.

Remarks.—Say's Bat (*Ves. subulatus*) has been several times described. It was first observed by Say, at the head waters of the Arkansas, within sight of the Rocky Mountains. It was subsequently described by Richardson, who obtained it at the Saskatchewan. It was given by Le Conte, in McMurtrie's translation of Cuvier, under the name of *Ves. Lucifugus*. Professor Green, in Doughty's Cabinet of Natural History, (vol. 2d, fig. 270,) gave a correct description of it under the name of *Ves. domesticus*. He, however, erred in arranging it in the preface of his description, under Rafinesque's genus *Nycticejus*, to which it does not belong. The last notice of it is found in Cooper's Monograph of *Vespertilio*, in the New York Lyceum of Natural History. This species has a very extensive range. We obtained it in the widely separated localities of Carolina and Labrador, during summer. The *Ves. Carolinensis* is found in autumn, winter and spring, in Carolina; but appears to migrate northwardly in summer, and is at that season common in the State of New York. The *Ves. monticola* and *Ves. Virginianus* have not been met in Carolina or Georgia, and appear to be Northern or Alpine species, and no doubt exist in the Northern States. The *Ves. Carolinensis* may be easily distinguished from the other closely-allied species, by the large size of the first upper incisor; the second which succeeds it being so minute as to require the aid of a good magnifier to detect it.

The genera of Bats have within the last few years been greatly multiplied, in

order to include the vast number of new species which have been accumulating in European museums. The last revision we have seen was by Gray, of the British Museum, who has divided the Bats into forty-eight genera. The two species here described, belong to the genus *Vespertilio*, as now restricted. It is characterised by having four incisors in the upper jaw, in pairs on each side, near the canines, with a large, unoccupied space between them. The only species as yet described in the United States, that can be referred to this genus, are *Ves. Carolinensis*, *Ves. noctivagans*, *Ves. subulatus*, *Ves. monticola* and *Ves. Virginianus*.

The existence of a Brown Weasel in America, which does not become white in winter, has been doubted by some naturalists; and by others, the species has been regarded as the *Mustela vulgaris* of Europe. Dr. Harlan, (*Fauna Americana*, p. 61.) under the name of *Mustela vulgaris*, does not appear to have described an American species. His description appears intended for the common Weasel of Europe, which we think does not exist in America. Dr. Godman, after giving figures of the Ermine both in winter and summer colours, considered the latter as the species improperly referred to *Mustela vulgaris* of Europe; and in accordance with the views of Charles L. Buonaparte, the Ermine was regarded as the only species of American Weasel. Dr. Richardson, (*Fauna Boreali Americana*), under the name of *Mustela* (*Putorius*) *vulgaris*, has described from specimens obtained by Captain Bayfield on the borders of Lake Superior, and also from others procured by himself at Carleton House, which he regarded as agreeing in all respects with the European species. He concludes, by stating, that this species, like the Ermine, "becomes white in winter." We had an opportunity, in the Museum of the Zoological Society of London, of examining the specimens referred to by Dr. Richardson, and of comparing them with *Mustela vulgaris*, and were satisfied that the species were distinct; yet, unless he was in error in stating that the American species became white in winter, we are not certain that the species we are about to describe, is identical with the specimens he referred to.

MUSTELA fusca.—American Brown Weasel.

M. (fusca) Corpore inter *Mustelam erminiam* et *Mustelam vulgarem* intermedio; canda illius brevior, sed hujus longior; apice nigro; vellere supra fusco; subtus albo.

American Brown Weasel.—Intermediate in size between *Mustela erminia* and *Mustela vulgaris*; tail shorter than the former, but longer than the latter, with the extremity black; brown above, white beneath.

The body is long and slender, but far more robust than that of *Mustela vulgaris*; the feet especially appear one third larger, and more thickly clothed with fur, which completely covers the nails. The ear is a little longer, and more pointed, than that of either the Ermine or common Weasel. The white on the lower surface is not mixed with brown hairs, as in the *Mustela vulgaris*, and not only occupies a broader space on the belly, but extends along the inner surface of the thighs as low as the tarsus, whilst in the *Mustela vulgaris*, the white scarcely reaches the thighs.

Colour.—The whole of the upper surface, to within three-fourths of an inch of the tail, is of an uniform dark fawn colour. On the upper surface of the tail, the hair is darker brown than the back, and, its extremity is for an inch nearly as black as that of the Ermine. In writing this description, we have several specimens of the European *Mustela vulgaris* before us; and the ends of the tails in that species are uniformly brown, with here and there a black hair interspersed. Although the hair of the present species, at the extremity of the tail, is black, like that of the Ermine, yet these hairs are short and soft, and more like fur, and do not present the long and coarse appearance of that of the former species. The whole of the under surface is pure white; this colour does not commence on the upper lip, as in the Ermine, but on the chin, extending around the edges of the mouth, and by a well-defined line, along the neck, inner parts of the fore legs, the

sides and the thighs, and tapering off to a point at the tarsus. The white on the lower surface is not mixed with brown hairs, as in the *Mustela vulgaris*, but extends lower down on the legs. Of the colour of this species, in winter, we cannot speak with positive certainty, but feel pretty confident that it is the same as in summer, and that it does not (at least in the latitude of New York) become white in winter. We many years ago, kept several young Ermines in confinement, as well as one of this species. The Ermines all became white in winter, although some of them were not fully grown; the present species underwent no change in colour, but remained brown during the whole winter. On another occasion, a specimen of a brown Weasel was brought to us in the month of December, which had been caught in a trap. At that season, the Ermines are uniformly white. A Weasel exists in the Southern States, and is found as far south as the upper parts of South Carolina and Georgia. It has always been represented to us as never becoming white in winter; and although we possess no specimens at present, we are inclined to regard it as this species.

Dimensions of specimens before us, of the three species referred to above:—

	<i>Mustela erminia.</i>		<i>M. vulgaris.</i>		<i>M. fusca.</i>	
	inch.	lines.	inch.	lines.	inch.	lines.
Length of head and body,	11	7	7	0	9	0
Tail vertebræ,	4	6	1	9	2	9
Including fur,	6	2	2	1	3	2
Height of ear, posteriorly,	0	2½	0	2	0	3

The specimen of the American Brown Weasel, described above, was obtained at Long Island, in the month of May.

We subjoin a description of another species of *Mustela*, which, although recently made known to naturalists by Dr. Lichtenstein, of Berlin, who received his specimens from the vicinity of the city of Mexico, was not hitherto known to exist as far north as the locality from which we obtained it. We agree with Swainson, Lichtenstein, Dr. Richardson, and the most eminent European naturalists, that America divides itself into three natural zoological boundaries: the first including our whole country from the farthest north, to the tropic of Cancer, where the tropical forms commence, to be called North America; the second, including the Tropics, called Central or Tropical America; the third, South America, including all that region lying south of 33½ south latitude. The southern points of Florida and California will, in this case, be the southern boundary of our North American Fauna. Our specimen was received from North California about latitude 40°.

Mustela frenata. (Licht.) Bridled Weasel.

Mustela frenata. Licht. Darstellung neuer oder wenig bekannter saugthiere von Dr. Lichenstein, Berlin, 1827—1834.

M. (Frenata.) Vellere supra fulvo; subtus albo-flavo; capite maculâ consperso; fronte fasciâ circumdatâ; gutture albo.

Bridled Weasel.—Size of *Mustela erminia*; colour, fawn above, yellowish white beneath; ears and nose dark brown; a spot on the head, a band above the eyes, and the throat white.

Form. In shape, this species bears a strong resemblance to that of the Ermine. It appears to be somewhat shorter. The toes and nails are more thinly clothed with fur; the ears are narrower and longer.

Colour.—The nose, sides of the face to above the eyes, and the ears are dark brown; end of the tail black; a small spot on the head, between the ears; the forehead, a broad line extending beneath the ears; the chin and the throat white. The whole upper surface is a light fawn colour; beneath, yellowish white.

Dimensions—

Length of the head and body,	11 inch.	6 lines.
Do. tail,	5 "	6 "
Do. to the end of hair,	6 "	4 "
Height of ear, posteriorly,	0 "	4 "

ARVICOLA fulva. Glossy Arvicola,

A. (fulva.) Corpore longo ac tenui; naso acuto; auriculis et pedibus longis; velleri tereti ac nitente; supra fusca; subtus cano-fusco.

Glossy Arvicola.—Body long and slender, nose sharp, ears and legs long, fur smooth and lustrous; dark brown above, hoary brown beneath.

Form.—This species presents more distinctive markings than any of our American Arvicola; its body is less cylindrical, and its nose less obtuse than any of our other species; its ears are prominent, rising two lines above its smooth, compact fur; its lower incisors are very long, and much exposed and considerably curved; tail longer than the head, thinly covered with short hairs; legs long and slender, giving the whole animal that appearance of lightness and agility observable in the Mouse.

Colour.—Incisors, yellowish-white. The hairs, which are very short, like those on the Pine Mouse of Le Conte, are at the roots on the upper surface, plumbeous, broadly tipped with brown, giving it a bright chesnut-brown colour; the hairs, on the legs and toes, are a little lighter; on the under surface, the colour is cinereous.

Dimensions—

Length of the head and body,	3	inch.	9	lines.
Do. tail,	1	"	4	"
Height of ear, posteriorly	0	"	2½	"
Length of tarsus,	0	"	7	"

The specimen was obtained in one of the South-western States; we believe Illinois.

ARVICOLA nasuta. Sharp-nosed Arvicola.

A. (nasuta.) Arvicola Pennsylvanica longior; caudâ capite brevior; pedibus tenuibus; calce brevissima; corpore supra ferrugineo—fusco; subtus ex cinereo et flavo variegato.

Sharp-nosed Arvicola.—Larger than Arvicola Pennsylvanica; tail shorter than the head; legs small, slender; heel very short; the body, above, dark, rusty brown; a soiled yellowish grey beneath.

The head of this species is rather long, and the nose sharper than the Arvicola in general. The lower incisors are long, and very much curved. The body is less cylindrical than Wilson's Meadow-mouse; the ears are circular, sparingly hairy within and well covered with fur exteriorly; whiskers shorter than the head; tail thinly clothed with hair.

Extremities.—Legs covered with short hairs. The fore feet have naked palms; claws small. The tarsus is more than a third shorter than that of the much-smaller Arvicola Pennsylvanica; the fur on the back is also shorter.

Colour.—Incisors yellowish-white; the fur, from the roots to near the tips, is greyish-black; the tips are yellowish-brown and black; giving it a rusty-brown appearance. The legs and tail are light brown; the chin, a soiled white; the fur on the under surface of the body, is dark-cinereous to the tips, where it is light-coloured.

Dimensions—

Length of head and body,	5	inch.	9	lines.
Do. head,	1	"	10	"
Do. tail,	1	"	2	"
From heel to point of nail,	0	"	6	"

For the sake of convenient comparison, we give the dimensions of the largest of six specimens before us, of

Arvicola Pennsylvanica—

Length of head and body,	4	inch.	2	lines.
Do. head,	1	"	4	"
Do. tail,	1	"	6	"
From heel to point of longest nail,	11	"		

We are not certain, that this species may not have been indicated, although not

described, by Rafinesque, in the American Monthly Magazine, under the name of *Lemmus Noveboracensis*. His descriptions, however, in every department of natural history, are so short, vague and imperfect, that it is impossible to identify his species with any degree of certainty. They have created such confusion in the nomenclature, that nearly all European and American naturalists have ceased to quote him as authority. Dr. Richardson has moreover described an *Arvicola* from the Rocky Mountains, which he has referred to the *Noveboracensis* of Rafinesque, which differs widely from the above species.

Habitat. The specimen which we have described, was obtained by Dr. Brewer, near Boston. We received another from Mr. John W. Audubon, who procured it at the Falls of Niagara. We have also frequently found it in the northern parts of New York, where the *Arvicola Pennsylvanica* also exists. It appears, however, not to be found as far to the south as the latter species, as we have sought for it in vain in Pennsylvania.

ARVICOLA scalopsoides. Mole *Arvicola*.

A. (*Scalopsoides*.) Capite crasso; naso obtuso; vellere curto, molli, bombycino instar velleri Talpæ; supra albo-fusco; subtus plumbeo.

Head large, nose blunt, fur short, soft, silky and lustrous, like that of the Mole. Colour, above, light brown; beneath, plumbeous.

This species, of which we have obtained many specimens from Long Island, and which is not rare in the vicinity of New York, is very distinct from Wilson's Meadow Mouse. His diminutive figure in the 6th vol. of his Ornithology, is not very unlike this animal; but his descriptions, both of form and habits, which apply very correctly to *Arvicola Pennsylvanica*, have no reference to the present species.

The head is thicker and much shorter than that of Wilson's Meadow Mouse; the body cylindrical; ears scarcely rising above the integument, and completely concealed by the fur. The legs and tail are short; the latter not as long as the head, and both are covered with very fine and short hairs. The fur on the back, which is soft and fine, and not half the length of Wilson's Meadow Mouse, has none of the coarse hairs which are found in that species. On the under surface, the fur is very short, not more than a line in length.

Colour.—The teeth are yellowish white; the fur on the back is, from the roots, dark plumbeous, tipped with light ashy-brown. This colour continues uniform till it reaches the sides, where there is a distinct line of demarcation, commencing at the chin and running along the neck and sides of the thighs. The whole of this under-surface is of a light cinerous colour, the hair being plumbeous at base, and so lightly tipped with white as to appear in some parts spotted with dark blue and ashy white.

This species bears a strong resemblance to the Pine Mouse of Le Conte (*Psamomys Pinetorum*), which is also an *Arvicola*, than to any other. It is, however, larger, differs considerably in colour, and is destitute of the chesnut brown on the cheeks, which are the characteristic marks of that species.

Length of the head and body, 4 inch. 0 lines.			
Do.	tail,	0	" 10 "
Do.	head,	1	" 0 "
From heel to point of nails,		0	" 7 "

Mus humilis. (Bachman.) Little Harvest Mouse. Read before the Academy of Natural Sciences, 1837. Vide Jour. Acad. vol. vii.

Mus humilis. Corpore supra rutilo-cinereo et quoad baccas et lineam in utrisque lateribus ferrugineo; subtus flavo-albente.

Little Harvest Mouse.

Reddish gray above; cheeks, and line along the side, light ferrugineous.

Incisors, $\frac{2}{2}$ Canines, $\frac{00}{00}$ Molars, $\frac{3-3}{3-3}$ } 16 Teeth.

Form.—Size about a third smaller than the house mouse. Head rather broad; eyes moderate, placed much forward; nose much pointed; ears broad, extending a little beyond the hair, slightly furred without and along the edges on the inner surface; legs short; whiskers reaching to the ears; tail a little shorter than the body, flattened on the sides, rounded above and beneath, covered with a thin coat of very short hairs. Legs clothed with soft hairs lying close and smooth. The fore feet have naked palms, and four toes with a callous skin, protected by a very minute nail in place of a thumb. The outer toe considerably shorter than the inner, the two middle ones are nearly equal, the claws are slightly hooked; soles of the hind feet naked.

Colour.—Teeth yellow. Fur on the back plumbeous at the roots and tinged with black and reddish gray at the tips; cheeks, and a line along the sides, light ferruginous. Under parts very light buff. Tail brownish drab above, a little lighter beneath, nails white; eyes black.

This little quadruped, the smallest of the genus at present known in our country, has been obtained in several localities in South Carolina, and appears to be sparingly diffused throughout the whole state, except in the mountainous districts. It is occasionally found in the vicinity of Charleston, generally in grassy and shrubby fields, especially in the waste lands covered with the brome grass (*Andropogon dititiflorus*), of this country, as also in the fields of crab grass, (*Digitaria sanguinalis*.) I have occasionally found its nest among the long grass on the surface of the earth formed of the withered blades of various species of grasses, sometimes containing a small store of the seeds of the several species of *Paspalum*, *Digitaria* and *Panicum*, especially of the *Panicum Italicum*. The specimen from which this description was taken, was a little the largest of a great number that I have at different times examined. It was a female, procured on the 10th of December, containing four young in its matrix. I presume, therefore, that they produce their young throughout a great portion of the year, and are very prolific. One which I kept in confinement for several months, refused animal food of every kind, and fed only on grains.

Dimensions—

Length of the head and body,	2 inches, 9 lines.
Length of tail,	2 " 4 "
Height of ear,	3 "

Mus (*Calomys*) *aureolus*. Orange Coloured Mouse.

Mus (*aureolus*) *Auriculis longis*; *cauda corpore curtiore*; *corpore supra aureo*; *subtus flavo-albente*.

Mouse with long ears; tail shorter than the body; bright orange coloured above, light buff beneath.

Form.—This species bears a general resemblance in form to the white-footed mouse. (*Mus leucopus*.) It is however, a little larger, and its ears rather shorter. Head long, nose sharp, whiskers extending beyond the ears. Fur very soft and lustrous. The legs, feet and heel clothed with short, closely adpressed hairs, which extend beyond the nails. Ears thinly covered with hair, which does not entirely conceal the colour of the skin. Mammæ four, situated far back.

Colour.—The head, ears, and whole upper surface is of a bright orange colour; the fur being for three-fourths of its length from the roots, dark plumbeous. Whiskers nearly all black, with a few white hairs interspersed; tail above and beneath dark brown. On the under parts, the throat, breast, and inner surface of the forelegs are white; the belly light buff. There are no very distinct lines of separation between these colours.

Dimensions—

Length of head and body,	4	inch.	3	lines.	
Length of tail	-	3	"	1	"
Length of head,	-	1	"	3	"
Length of ear posteriorly,				3	"
Tarsus including nail,				9	"

In symmetry of form and brightness of colour, this is the prettiest species of *Mus* inhabiting our country. It is at the same time a great climber. We have only observed it in a state of nature in three instances, in the oak forests of South Carolina. It ran up the tall tress with great agility, and on one occasion concealed itself in a hole, (which apparently contained its nest,) at least thirty feet from the ground. The specimen we have described was shot from the extreme branches of an oak in the dusk of the evening where it was busily engaged among the acorns. It is a rare species in Carolina, but appears to be more common in Georgia, as we received from Maj. Le Conte, three specimens obtained in the latter state.

Note.—We have arranged this species under the sub-genus of Mr. Waterhouse, proposed in the Zoological Society of London, Feb. 17th, 1837. (See Transactions.) It is thus characterized. "Subgenus *Calomys* (from *καλος* beautiful, and *Mus*.) Fur moderate, soft. Tarsus almost entirely clothed beneath with hair. Front molar with three indentations of enamel on the inner side, and two on the outer; and the last molar with one on each side. The type, *Mus* (*calomys*), *bimaculatus*. Two other species have been described from South America. *Mus* (*calomys*), *elegans* and *gracilipes*.

Arctomys flaviventer. Yellow-bellied Marmot.

Arctomys (*flaviventer*.) Corpore supra flaveo subalbicante et nigro; capitis apice maximum in partem nigro; corpore subtus flavo aureo; baccis flavis, quoad nasi orbiculum, labia et mentum albo; pedibus fuscis; candâ ex atro fusca. Pilis omnibus ex fusco-flavo marginatis.

Yellow-bellied Marmot.

Upper parts, grizzled yellowish white and black; crown of the head chiefly black; under parts, deep yellow; sides of the muzzle, yellow; point of the nose, tips and chin, white; feet, brownish yellow; tail, deep blackish-brown, all the hairs tipped with brownish yellow.

The fur on the back is greyish-black at the base; on each hair there is then a considerable space occupied by dirty yellowish-white, which is gradually shaded towards the apex through brown into black; tips of the hairs yellowish-white; hairs of the belly, greyish-black at the base; hairs of feet, many of them blackish at base; cheeks, grizzled black and white; the former colour prevailing; a rusty brown patch on the throat, borders the white hairs of the chin; whiskers moderate black; feet entirely naked beneath.

This species is closely allied to the *Arctomys empetra*, which exists in the northern part of our continent; but the feet are yellow, instead of black, as in that animal; and the belly is yellow, instead of deep rusty-red; and the colouring of the hairs on the back consists of yellowish-white and black, instead of rusty brown, black and white. The head is narrower, the toes are smaller, and claws only half the length of the *Arctomys empetra*.

Dimensions—

From point of nose to root of tail,	16	inch.	0	lines.
Tail to end of fur,	6	"	10	"
Heel to point of nail,	2	"	6½	"
Height of ear, posteriorly,	0	"	6½	"
Point of nose to ear,	3	"	0	"

We detected this specimen in the collection brought by the late David Douglass, and, by permission of the Zoological Society of London, were enabled to describe it. It was brought from the mountains between Texas and California, and is marked in their printed catalogue of 1839, *Arctomys flaviventer*. No. 459, Bachman's MSS.

Sciurus lanigerus. Woolly Squirrel.

Sc. *lanigerus*. Pilis longis et lanosis; caudâ crapâ, villosa vixque distichâ; naso, auriculis et pedibus pene nigris; vellere supra ex cinereo fusco sub albicante; subtus, ex albo fusco.

Woolly Squirrel.

Hair long and woolly; tail, large and bushy, scarcely distichous; nose, ears and feet, nearly black; upper surface, grizzled dark grey and brown; under parts, pale brown.

Form.—In size, this species is a little less than the Fox squirrel, (*Sciurus capitratus*.) The ears, in the two specimens which are before us, are decumbent at the ends, as if the animal, in a living state, did not carry them erect, as is the case with the squirrels generally; head short, ears large, thickly clothed on both surfaces with short hairs; feet and toes hairy to the extremity of the nails.

Colour.—The incisors are dark orange on the outer surface. The whole head, both on the upper and lower surface extending to the neck—the ears, a spot behind the auricle, fore legs to the shoulders, and hind feet to above the heel, black, with a few greyish-brown hairs intermixed. The long fur on the back is, for half the length, light plumbeous, then a line of light brown, and tip with white and black. The hairs on the tail, in which the annulations are very obscure, are for one-third of their length, brownish-black, then light-brown, then brownish-black, and tip with ashy white. On the under surface, the hairs, which are short, are at the base light plumbeous, tip with light brown and black; the throat is light greyish-brown.

The two specimens, which in other respects were very similar, differ a little in the colour of the head; one being lighter coloured, the head being dark greyish-brown.

Dimensions—

Length of head and body,	11	inch.	11	lines.
Do. tail to end of hair,	11	"	0	"
Height of ear, posteriorly, including fur,	0	"	8	"
From heel to end of middle claw,	2	"	6	"

The specimens were obtained from the northern parts of California; and, from their long, woolly hair, have an appearance of coming from a cold, mountainous region.

Sciurus mustelinus. Weasel Squirrel.

S. (*mustelinus*.) Cervicæ longissima; caudâ corpore longiore; pilis curtis, rigidis, compressis, teretibus; omni corporis parte nigerrima.

Neck very long; tail longer than the body; hair short, rigid, adpressed, glossy; the whole body jet black.

Form.—The usually long neck of this species, together with its long and slender body, and smooth, lustrous hair, give it the appearance of some species of weasel, which has suggested to us the specific name. The ears, which are of moderate size, are nearly naked, there being only a few hairs on the borders; feet covered with very short hairs, which only reach to the roots of the nails. The tail, which is long, but not bushy, is moderately distichous.

Colour.—The hairs, in every part of the body, are from the roots to the extremities, of an intense glossy black.

Dimensions—

Length of the head and body,	10	inch.	0	lines.
Do. tail,	13	"	0	"
From shoulder to point of nose,	3	"	10	"
Tarsus,	2	"	5	"
Height of ear, posteriorly,	0	"	6	"

The specimen was received from California, and has the appearance, from its thin covering of hair, nearly destitute of the soft fur usually found in the squirrel, of being a native of a warm climate.

Remarks.—This species differs widely from all the other varieties and species of Black Squirrel in our country. It is destitute of the white nose and ears of *Sc. capistratus*; it has shorter and coarser hair than *Sc. niger*, with none of the white tufts invariably found in that species; and has a smaller body, although a much longer tail, than *Sc. Auduboni*, with none of the white, yellow and brown annulations in the hair, which characterise that species.

Sciurus ferruginiventris. Rust-bellied Squirrel.

S. (ferruginiventris.) Vellere supra ex albo-cinereo vario, subtus rufo; armis fuscis.

Rust-bellied Squirrel.

Light grey above, reddish-brown on the shoulders; beneath, bright rufous.

Form.—This species, which is a little smaller than the Carolina Grey Squirrel, possesses great symmetry of form, and, in shape, resembles the latter species. The ears on both surfaces are thinly clothed with hair; tail longer than the body.

Colour.—Teeth yellow; nails brown; point of nose and whiskers, black; ears, on the outer edges, tinged with brown; within, grey; behind the ears, on the neck, a line of soiled white. On the upper surface, the head, neck, back and tail are light grey, formed by hairs which are light plumbeous, from the roots to near the tips, where they have white and black annulations; from the outer surface of the fore legs, there is a reddish brown wash, which extends over the shoulders, and nearly meets on the back, gradually fading into the colours of the back and neck. The hairs of the tail are black at the roots, then yellowish, then a broad line of black, tipped with white. The feet, on the upper surface, are grizzled with white and black. The sides of the face and chin are light gray. The whole of the remainder of the under surface of the body, including a line around the eyes, the throat and inner surface of the legs, is of an uniform bright rufous colour.

Dimensions—

Length of head and body,	8	inch.	10	lines.
Do. tail,	10	"	0	"
Height of ear, posteriorly,	0	"	5	"
Length of tarsus,	2	"	5	"

Habitat. California.

Sciurus leporinus. Hare-like Squirrel.

S. (leporinus.) Cauda crapa maximeque disticha; vellere supra ex cinerofusca; subtus albo.

Tail broad, and very distichous; dark grayish-brown above, white beneath.

Form.—Intermediate in size between *Sc. cinereus* & *Sc. leucotis*; ears moderate, thinly covered with very short hairs on both surfaces; tail longer than the body.

Colour.—Teeth orange; whiskers black; nose, dark brown; ears, light brown. Above the ears, a tuft of soft, cottony-like fur. The hairs on the back, which are short, are cinereous at the roots, then light brown, tipped with brown and black, giving it so much the colour of the English Hare, that we concluded to borrow from it our specific name. On the sides, the colour is a shade lighter than on the back. The tail, which from the broad white tips of the hair has a white appear-

ance, is brown at the roots, and three times annulated with black. The upper lips, chin, neck and whole under-surface, including the inner surface of the legs, white; the hair being of this colour from the roots; feet, a soiled yellowish white. On the outer surface of the hind leg, above the heel, a small portion of the fur is brown. There is also a spot of the same colour on the upper surface of the hind foot.

Dimensions—

Length of the head and body,	11	inch.	11	lines.
Do. tail,	12	"	6	"
Height of ear,			9	"
Heel, to end of middle claw,	2	"	9	"
Breadth of tail, with hairs extended,	5	"	6	"

This species, in its general appearance, so much resembles some varieties of the *Sc. cinereus* and *Sc. leucotis*, that, had it not been for its distant western locality, we should at first have been tempted to set it down, without further examination, as one or other of those species. There can, however, be no doubt, from its differing in so many details of colour, of its being distinct from either.

Habitat. Northern parts of California.

SCIURUS molli-pilosus. Soft-haired Squirrel.

S. molli-pilosus. Cauda corpore curtior; dorso fusca; lateribus et colli partibus rufis; abdomine cinereo.

Soft-haired Squirrel.

Tail shorter than the body; back, dark brown; sides of the neck and flanks rufous; under surface, cinereous.

Form.—This species is a little larger than *Sciurus Hudsonicus*, with which we have compared it; its legs especially are considerably longer and more robust; the fur is much softer, the hair longer and less glossy than that of the former species.

Colour.—The teeth are yellow; the upper parts, including the nose, ears and outer surface of the legs and upper surface of the tail, are dark brown. This colour is formed by the hairs being plumbeous at the roots, tipped with light brown and black. On the sides of the neck, the shoulder and near the thighs, the colour is reddish brown. The tail, which is not very distichous, is brown, twice annulated with black; a few of the hairs are tipped with grey. On the under surface, the lips, cheeks and chin are greyish-brown; the inner surface of the fore legs, the throat and abdomen cinereous, lightly tinged in some places with rufous.

This species differs so widely in all its details, from *Sc. Hudsonicus*, that it is scarcely necessary to point out their distinctive marks of difference. The space occupied by the lighter colours on the under surface is much narrower than in the former species, nor is there, as in that species, any black line of separation between the colours of the back and under surface.

Length of body,	8	inch.	6	lines.
Do. tail to end of hair,	7	"	0	"
Height of ear,	0	"	5	"
Tarsus,	2	"	1	"

Habitat. Northern parts of California.

SCIURUS occidentalis. Western Squirrel.

S. (occidentalis). Vellere longo ac molli; auriculis aretis; caudâ corpore longiore, quoad caput, fasciam dorsalem et caudam nigro; lateribus furvis; abdomine fusco.

Western Squirrel.

Fur long and soft; ears narrow; tail longer than the body; head, dorsal line and tail, black; beneath, dark rusty brown.

In size, this species is a little larger than the Northern Grey Squirrel, (*Sc. leucotis*), and may be compared with the black variety of that species. The ears, which are elliptical in shape and narrower than in most of our species, are thickly clothed with soft, fine hair on both surfaces. The tail is very long, and, instead of being distichous, as in most of the species, is in the prepared specimen perfectly round. The feet are clothed with hair, partially concealing the nails. The hair is longer, more diffuse, but not softer than that of *Sc. leucotis*.

Colour.—The head, ears, upper surface of the legs, tail and a broad dorsal line black. On the sides, the hair is plumbeous at the roots, then a line of brown slightly tipped with black. On the under surface, this species is dark brownish black, from the lips to nearly the extent of the jaws. On the throat, inner surface of the legs, and whole under parts of the body, there is a mixture of black and brown fur, giving it a dark, rusty-brown colour. There are no annulations in the hairs of the tail.

Dimensions—

Length of the head and body,	11	inch.	0	lines.
tail to the end of hair,	14	"	0	"
Height of ear,	0	"	8	"
Heel to the end of nail,	2	"	9	"

When old father Linnæus comprehended the whole of his description of an American Squirrel in the single word, *niger*, he was not aware of the number of species of Black squirrels which should yet be detected in our western world, and the perplexity it would give to his successors in deciding on the species to which he referred.

There are now no less than eight North American squirrels, which are either permanently, or in some of their varieties, black.

The present cannot, however, be identified with any of our known species. It approached nearest to the black variety of the Northern Grey Squirrel, but is sufficiently distinct from that to entitle it to another name. The species in the Atlantic states have moreover never been found west of the Rocky Mountains, nor, indeed, have any but the Fox squirrel (*Sc. capistratus*) been observed to the west of the Mississippi river.

Fuller descriptions, with an account of habits, accompanied by good figures of the above species, will be given in a work on the North American Quadrupeds, now preparing for publication.

Mr. Haldeman submitted the following "Description of a new species of fresh water Shell."

Cyclas (pisidium) dentata.—Shell ovate, olivaceous, inflated, umbones elevated; medial and lamellar teeth well developed. Length 0.5; height 0.4 inch. Hab. Oregon: Mr. Nuttall. Bears considerable resemblance to *C. similis*, from which it may be distinguished by the more elevated beaks.

N. B.—*Pisidium abruptum* (p. 53,) is not distinct from *P. dubium*, Say.

VERBAL COMMUNICATIONS.—Mr. Haldeman called the attention of the Academy to several specimens of *Unio* of various colours, principally green and brown, the former being referable to *U. viridis* of Rafinesque, the latter to *U. Tappanianus*, of Lea.

Mr. H. contends that they are identical, because they pass into each other, both as regards colour and the peculiarities of the cardinal teeth, which are lamellar, and extremely variable in number and size. It was not necessary to add a synonym to the original name, as Mr. Conrad proposed the name *subviridis* (New Fresh-water Shells,) for the brown variety which he figured; in the event of its proving distinct from *U. viridis* of the west. This method of proposing names is very proper, because it has a tendency to limit the number of synonyms which might otherwise be inflicted upon the nomenclature of natural history. Some contend that the shell from the Susquehanna cannot be the *viridis*, because the latter has not been found in the west, its locality being Kentucky river, according to Rafinesque; whilst the *Tappanianus* is found in the Susquehanna; but Mr. H. has found unequivocal specimens in Pigeon creek, Kentucky, which cannot be distinguished from those found in eastern Pennsylvania. He has found a variety with a thick shell, in James river, Va. Rafinesque's name has been objected to, but one of the specimens exhibited presents as brilliant a green as that of *Anodonta cataracta*, Say.

Mr. Haldeman wished the fact to be recorded, that he had placed some living specimens of Western *Unio*, *Unio rectus*, *triqueter*, *circulus*, *cylindricus*, *ovatus* and others, in the Susquehanna, where no western species has hitherto been found, except *U. viridis*, Raf.